

Distributed Systems

COMP90015 2017 Semester 1
Tutorial 04

Today's Agenda

- Code demonstration of command line arguments.
- Code demonstration of client/server connection.
- Concept/question discussion if we have time.
 1. Give a reason why representing data using XML is preferable over a scheme such as CORBA's data representation.
 2. Give a reason why JSON data representation is preferable over XML.

Code Demonstration - command line arguments

Demo!

Code Demonstration - client/server connection

Demo!

Questions for Today

Q1. Give a reason why representing data using XML is preferable over a scheme such as CORBA's data representation.

Q2. Give a reason why JSON data representation is preferable over XML.

Interprocess Communication

Q1. Give a reason why representing data using XML is preferable over a scheme such as CORBA's data representation.

Interprocess Communication

Q1. Give a reason why representing data using XML is preferable over a scheme such as CORBA's data representation.

- XML is self describing unlike CORBA CDR.
- The tags in XML describes the data.

CORBA Example

<i>index in sequence of bytes</i>	<i>← 4 bytes →</i>	<i>notes on representation</i>
0-3	5	<i>length of string</i>
4-7	"Smit"	'Smith'
8-11	"h__"	
12-15	6	<i>length of string</i>
16-19	"Lond"	'London'
20-23	"on__"	
24-27	1934	<i>unsigned long</i>

The flattened form represents a *Person* struct with value: {'Smith', 'London', 1934}

XML Example

```
<Books>
  <Book ISBN="0553212419">
    <title>Sherlock Holmes: Complete Novels...
    <author>Sir Arthur Conan Doyle</author>
  </Book>
  <Book ISBN="0743273567">
    <title>The Great Gatsby</title>
    <author>F. Scott Fitzgerald</author>
  </Book>
  <Book ISBN="0684826976">
    <title>Undaunted Courage</title>
    <author>Stephen E. Ambrose</author>
  </Book>
  <Book ISBN="0743203178">
    <title>Nothing Like It In the World</title>
    <author>Stephen E. Ambrose</author>
  </Book>
</Books>
```

Interprocess Communication

Q2. Give a reason why JSON data representation is preferable over XML.

Interprocess Communication

Q2. Give a reason why JSON data representation is preferable over XML.

- Because JSON requires less configuration overhead, it's easier to program for reading and writing.
- As the usage of both is to transfer data over network, we should mind the clients that are using JavaScript. JSON is native to JavaScript and its usage has less overhead. It will be more faster and efficient.
- JSON serialization produces shorter strings than XML. Using JSON will reduce the amount of data running across the wire and improve performance in that respect.

Example: Twitter.

End of Tutorial
